

## **REMARKS**

Claims 1-43 are pending.

Claims 1-43 stand rejected.

Claim 18 has been amended for clarity only and not for reasons of patentability. Specifically, claim 18 has been amended to read in part “The data processing system as in claim 17.”

### **Claim Rejections - 35 U.S.C. § 103**

Claims 1-43 stand rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 6,161,130, issued to Horvitz et al. (hereinafter “*Horvitz*”) in view of U.S. Patent No. 6,332,163, issued to Bowman-Amuah (hereinafter “*Bowman-Amuah*”). Applicant respectfully traverses the rejection.

#### ***Horvitz***

The Examiner cites *Horvitz* as teaching a “plurality of non-hierarchically organized classifiers.” Specifically, the Examiner cites and quotes *Horvitz* col. 4, line 54 to col. 5, line 14. To summarize, the cited portions of *Horvitz* essentially teach the use of technology to analyze incoming e-mail messages to determine whether each message should be classified as spam or not. Messages classified as spam are stored in a spam folder or spam subfolder. More specifically, *Horvitz* teaches the use of a probabilistic classifier that “generates a continuous probabilistic measure as to whether that message is spam or not.” *Horvitz*, col. 4, lines 66-67. “If, for any message, its associated probabilistic measure equals or exceeds the threshold, then this message is classified as spam and, e.g., stored in a spam folder.” *Id.* col. 5, lines 1-4.

Thus, the teachings of *Horvitz* focus on a classifying e-mail messages and filing e-mail messages in a folder based upon the determined classification of the e-mail. Significantly, *Horvitz* does not even mention “providing an interface to a database” or specifically to a “database [that] includes a plurality of nonhierarchically organized classifiers of data and data linked to at least one of the classifiers” and “organizing a set of the plurality of nonhierarchically

organized classifiers into a first hierarchical data structure according to a view established for a first client.” Present Application, claim 1. Accordingly, since databases are not relevantly mentioned by *Horvitz*, *Horvitz* includes no teachings regarding the classifiers of data included in the database, whether hierarchically or nonhierarchically organized.:<sup>1</sup> *Horvitz* only teaches storing classified messages in a “folder”, which is clearly not a database.

### ***Bowman-Amuah***

*Bowman-Amuah* describes, in general, a “system, method and article of manufacture for implementing communication services patterns.” *Bowman-Amuah*, Abstract. The Examiner cites *Bowman-Amuah*, col. 58, ln. 53 to col. 59, ln. 52 and Figure 16, which describes “file sharing services [that] allow users to view, manage, read, and write files that may be located on a variety of platforms in a variety of locations.” *Bowman-Amuah*, col. 58, lns. 54-57. *Bowman-Amuah* recites a list of file sharing products in col. 59, lns. 19-40, including Network File System (NFS), which is described in the Background section of the present application. *Bowman-Amuah* specifically relates to “file sharing services.” For example, regarding NFS, “NFS communicates in terms of directories and files” organized in a directory structure rather than a database. Present Application, Background, page. 3, lines.2-15. Figure 16 depicts a file structure and file sharing services between a client and server. Figure 16 contains no depiction of a “database”.

Applicant respectfully submits that the “file sharing services” of *Bowman-Amuah* do not teach or suggest anything regarding “a database” as required by the claims of the present application. The relevant portion of *Bowman-Amuah* cited by the Examiner relates only to “file sharing services.” File sharing services, such as NFS, assume that an organization of file folders already exists, which is not the case with database classifiers as taught by the specification of the present application. Applicant respectfully submits *Bowman-Amuah* provides no teachings or suggestions related to a database and more specifically related to, for example, organizing a set of the plurality of nonhierarchically organized classifiers into a first hierarchical data structure according to a view established for a first client.”

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<sup>1</sup> *Horvitz* mentions “database” once in the context as an external input source in the same category as a video feed. See *Horvitz*, col. 22, ln.2.

### ***Horvitz in view of Bowman-Amuah***

Accordingly, if neither *Horvitz* nor *Bowman-Amuah* include any teachings of suggestions related to a database, then logically a prima facie case cannot be made that *Horvitz* and *Bowman-Amuah* in combination teach the present invention in which all the claims relate to a database. More specifically, the prior paragraphs' remarks directed individually to *Horvitz* and *Bowman-Amuah* establish that neither *Horvitz* nor *Bowman-Amuah* include any teachings or suggestions related to databases, classifiers of data in databases, or the organization of classifiers of data in databases. Furthermore, Applicant respectfully submits that the Examiner's reasons for rejecting claims 1, 5, 9, 17, 22, 27, 31, 36, and 40 do not take into consideration that the present invention is directed towards "providing an interface to a database" (claims 1, 31, 36, and 40), "presenting data in a database" (claims 5 and 9), "the data classification information represents classifiers of data, the classifiers are nonhierarchically organized in at least one database" (claims 17 and 22), and "classifiers of a database" (claim 27).

*Horvitz* teaches classifying e-mails and storing the classified e-mails in folders according to their classification. The cited *Bowman-Amuah* portions teaches about file sharing services with directories organized in a tree. Assuming *arguendo* that the motivation exists to combine the different arts addressed by *Horvitz* and *Bowman-Amuah*, the combination would classify e-mails and store the e-mails in folders organized in a directory tree structure. Thus, the arguable, relevant combination of *Horvitz* in view of *Bowman-Amuah* reduces to organizing file folders whose names reflect the classification of e-mails into a file directory structure. Accordingly, *Horvitz* and *Bowman-Amuah* cannot teach or suggest the invention of the present application because they include no teachings or suggestions related to organizing classifiers of data in a database into a first hierarchical data structure according to a view established for a first client. A database is not a file folder system as taught in *Horvitz*.

### **Claim 1**

Thus, the combination of *Horvitz* and *Bowman-Amuah* fails to teach or suggest, anything regarding "a database", "a plurality of nonhierarchically organized classifiers of data" that are included in the database, and "organizing a set of the [] nonhierarchically organized classifiers

into a first hierarchical data structure.” Present Application, claim 1. (emphasis added). In contrast to the present invention, *Horvitz* in view of *Bowman-Amuah* does not teach or suggest:

“providing an interface to a database, wherein the database includes a plurality of nonhierarchically organized classifiers of data and data linked to at least one of the classifiers, the method comprising:

organizing a set of the plurality of nonhierarchically organized classifiers into a first hierarchical data structure according to a view established for a first client;

presenting data to the first client according the first hierarchical data structure;

organizing a second set of the plurality of classifiers into a second hierarchical data structure according to a view established for a second client; and

presenting data to the second client according the second hierarchical data structure..”

#### Claim 5

Pursuant to the remarks above, in contrast to the present invention, *Horvitz* in view of *Bowman-Amuah* does not teach or suggest:

A method of presenting data in a database, wherein the database includes nonhierarchically organized classifiers(1:M) of data and data linked to at least one of classifiers(1:M), wherein “M” is any positive number including 1, the method comprising:

creating a view for a client, wherein the view organizes a set of the nonhierarchically organized classifiers (1:M) into a hierarchical data structure according to characteristics of the client;

presenting data to the client according to the hierarchical data structure.

#### Claim 9

Pursuant to the remarks above, in contrast to the present invention, *Horvitz* in view of *Bowman-Amuah* does not teach or suggest:

A method of presenting data in a database in a hierarchical data structure, wherein classifiers that classify the data are nonhierarchically organized, the method comprising:

receiving a request from a client;

translating the request into a database query for data classified by the nonhierarchically organized classifiers;

producing a set of data according to the database query, the set of data organized in a hierarchical data structure; and

presenting the set of data to the client.

### **Claim 17**

Pursuant to the remarks above, in contrast to the present invention, *Horvitz* in view of *Bowman-Amuah* does not teach or suggest:

a memory coupled to the processor, the memory including instructions to cause the processor to graphically display a hierarchy of data classification information, wherein the data classification information represents classifiers of data, the classifiers are nonhierarchically organized in at least one database, the data is contained in the at least one database, the data is at least a portion of all data contained in the at least one database, and each datum is classified by at least one nonhierarchically organized classifier.

### **Claim 22**

Pursuant to the remarks above, in contrast to the present invention, *Horvitz* in view of *Bowman-Amuah* does not teach or suggest:

A method of providing hierarchical data classification information, the method comprising:

receiving a request for hierarchical data classification information, wherein the data classification information represents classifiers of data, the classifiers are nonhierarchically organized in at least one database, the data is contained in the at least one database, the data is at least a portion of all data contained in the at least one database, and each datum is classified by at least one classifier;

generating the hierarchical database classification information; and

providing the hierarchical database classification information.

### Claim 27

Pursuant to the remarks above, in contrast to the present invention, *Horvitz* in view of *Bowman-Amuah* does not teach or suggest:

A computer readable medium having stored thereon a hierarchical data structure of classifiers of a database, wherein the classifiers include nonhierarchically organized classifiers(1:M) of data and data linked to the at least one of the classifiers(1:M), wherein M is any positive number including 1, the hierarchical data structure generated by the method of:

creating a view for a client, wherein the view organizes a set of the nonhierarchically organized classifiers(1:M) into a hierarchical data structure according to characteristics of the client; and

organizing data into the hierarchical data structure according to the set of the classifiers(1:M).

### Claim 31

Pursuant to the remarks above, in contrast to the present invention, *Horvitz* in view of *Bowman-Amuah* does not teach or suggest:

A computer readable medium for providing an interface to a database, wherein the database includes nonhierarchically organized classifiers(1:M) of data and data linked to at least one of classifiers(1:M), wherein "M" is any positive number including 1, the computer readable medium comprising a set of instructions for enabling a computer system to:

organize a set of the nonhierarchically organized classifiers(1:M) into a first hierarchical data structure according to a view established for a first client;

present data to the first client according the first hierarchical data structure;

organize a second set of the nonhierarchically organized classifiers (1:M) into a second hierarchical data structure according to a view established for a second client; and

present data to the second client according the second hierarchical data structure.

### Claim 36

Pursuant to the remarks above, in contrast to the present invention, *Horvitz* in view of *Bowman-Amuah* does not teach or suggest:

An apparatus for providing an interface to a database, wherein the database includes nonhierarchically organized classifiers(1:M) of data and data linked to at least one of the classifiers(1:M), wherein "M" is any positive number including 1, the apparatus comprising:

means for organizing a set of the nonhierarchically organized classifiers(1:M) into a first hierarchical data structure according to a view established for a first client;

means for presenting data to the first client according the first hierarchical data structure;

means for organizing a second set of the nonhierarchically organized classifiers (1:M) into a second hierarchical data structure according to a view established for a second client; and

means for presenting data to the second client according the second hierarchical data structure.

### Claim 40

Pursuant to the remarks above, in contrast to the present invention, *Horvitz* in view of *Bowman-Amuah* does not teach or suggest:

A system for providing an interface to a database, wherein the database includes nonhierarchically organized classifiers(1:M) of data and data linked to at least one of the classifiers(1:M), wherein "M" is any positive number including 1, the system comprising:

a data processing system having a memory coupled to at least one processor, wherein the memory comprises instructions for enabling the data processing system to:

organize a set of the nonhierarchically organized classifiers(1:M) into a first hierarchical data structure according to a view established for a first client;

present data to the first client according the first hierarchical data structure;

organize a second set of the nonhierarchically organized classifiers (1:M) into a second hierarchical data structure according to a view established for a second client; and

present data to the second client according the second hierarchical data structure.

### **Dependent Claims**

The Examiner rejected the dependent claims for the same rational as the independent claim. Applicants respectfully submit that a prima facie case of obviousness has not been made by the Examiner. Applicant respectfully requests that the Examiner identify the specific portions of Horvitz and Bowman-Amuah that teach each of the dependent claims.

The dependent claims contain many elements that are simply not taught by Horvitz in view of Bowman-Amuah. The fact that such elements are not taught provides further support for the Applicant's conclusion that the invention is not obvious in view of Horvitz and Bowman-Amuah. For example, Horvitz in view of Bowman-Amuah neither teach nor suggest:

**10.** The method as recited in Claim 9, wherein translating the request into a database query comprises:

looking up the file handle in an ILocation table to obtain an ILocation; and

formulating a database query to query a defined set of data, the query formulated from the ILocation.

**11.** The method as recited in Claim 10, wherein formulating a database query to query a defined set of data comprises:

determining if the ILocation contains bound classifiers, each bound classifier being bound by a constraining value;

if the ILocation contains bound classifiers, adding a clause to the database query for each bound classifier in the ILocation, each clause formulated to eliminate data from the defined set of data that has a defined value corresponding to the constraining value of the bound classifier;

determining if the ILocation contains unbound classifiers;

if the ILocation contains unbound classifiers, adding a first clause to the database query for the first unbound classifier, the clause formulated to produce a listing of distinct values set for the defined set of data, the distinct values corresponding to



the first unbound classifier, and further, adding a second clause to the database query for the first unbound classifier, the second clause formulated to select data from the set of defined data that has the value of the first unbound classifier not set to a value; and

if the ILocation does not contain unbound classifiers, adding a clause to the database query that selects all data in the defined set of data.

**12.** The method as recited in Claim 10, wherein formulating a database query to query a defined set of data includes formulating an SQL query, comprising:

determining if the ILocation contains bound classifiers, each bound classifier being bound by a constraining value;

if the ILocation contains bound classifiers, adding a WHERE clause with a condition to the SQL query for each bound classifier, wherein the condition of each WHERE clause is set to the constraining value corresponding to each bound classifier;

determining if the ILocation contains unbound classifiers;

if the ILocation contains unbound classifiers, adding a SELECT DISTINCT clause to the SQL query for the first unbound classifier and further adding a WHERE clause with a condition to the SQL query for the first unbound classifier, wherein the condition of the WHERE clause is set to NULL; and

if the ILocation does not contain unbound classifiers, adding a SELECT clause to the SQL query.

**13.** The method as recited in Claim 9, wherein producing a result using the database query, the result formatted according to the NFS protocol, comprises:

querying the database with the database query that produces ILocations and files;

translating the ILocations into unique file handles; and

storing the mapping from the unique file handles to the ILocations in an ILocation table.

**14.** The method as recited in Claim 13, wherein translating the Ilocations into unique file handles comprises:

translating the ILocations into single byte arrays;

cryptographically hashing the single byte arrays into small byte arrays; and

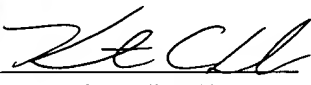
padding the small byte arrays with bits to make the small byte arrays the proper length of a file handle according to the NFS protocol.

15. The method as recited in Claim 9, further comprising providing a file handle to a client upon an initial access request from the client, the file handle corresponding to a view in the database, wherein the view defines an amount of data in the database that is observable by the client.

Applicant respectfully submits that all dependent claims are allowable for at least the same reasons as the independent claim upon which each directly or indirectly depends.

### CONCLUSION

In view of the amendments and remarks set forth herein, the application is believed to be in condition for allowance and a notice to that effect is solicited. Nonetheless, if this application is not in condition for allowance, Applicant requests a telephonic interview between the examiner and the undersigned. The undersigned can be reached during business hours at (512) 338-9100.

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	<u>10-22-2004</u>
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Respectfully submitted,



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